

SFA Deployment Approach

SFA Modernization Program

US Department of Education

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1 Introduction

1.1. Purpose

In order for the SFA Modernization Program at the US Department of Education to accomplish the objectives of a performance based organization, it will require reengineering of technical processes and their technical architectures. This level of activity will require a significant amount of effort to coordinate, monitor progress, track updates and validate the technical enhancements. To accomplish this, the SFA Modernization Program requires a support structure to provide the oversight and coordination of modernization capability release activities (to the SFA executive team and stakeholders). This is required so the right decisions can be made to achieve performance objectives related to planned application and/or system capability releases.

This approach identifies the need for an enterprise deployment function that will maintain focus on the overall technical and functional objectives of the program. This enterprise deployment function will also provide the continuous guidance needed to support the delivery of SFA's targeted business capabilities.

Implementing an enterprise deployment structure will provide senior management with an oversight ability that is lacking in the current lower level and partitioned model of deployment. In addition, this enterprise perspective will support the Modernization Partner by working with the SFA CIO Enterprise IT Management, IT Services, IT Application teams, and the virtual data center to standardize deployment practices across channels.

Upon the conclusion of reading and understanding this approach, the reader will understand the necessity of creating an enterprise focused deployment organization. To jump start this process, the reader has been supplied a series of next steps outlined at the conclusion of this approach. These steps will provide the reader with the requirements for implementing the organizational structure and the associated enterprise deployment concepts.

1.2. Scope

The deployment approach applies to all information systems and related system engineering activities that might affect the achievement of the SFA modernization effort. This would include hardware, software (COTS and/or custom), and documentation. In particular, the focus of this document is on the enterprise perspective of deployment.

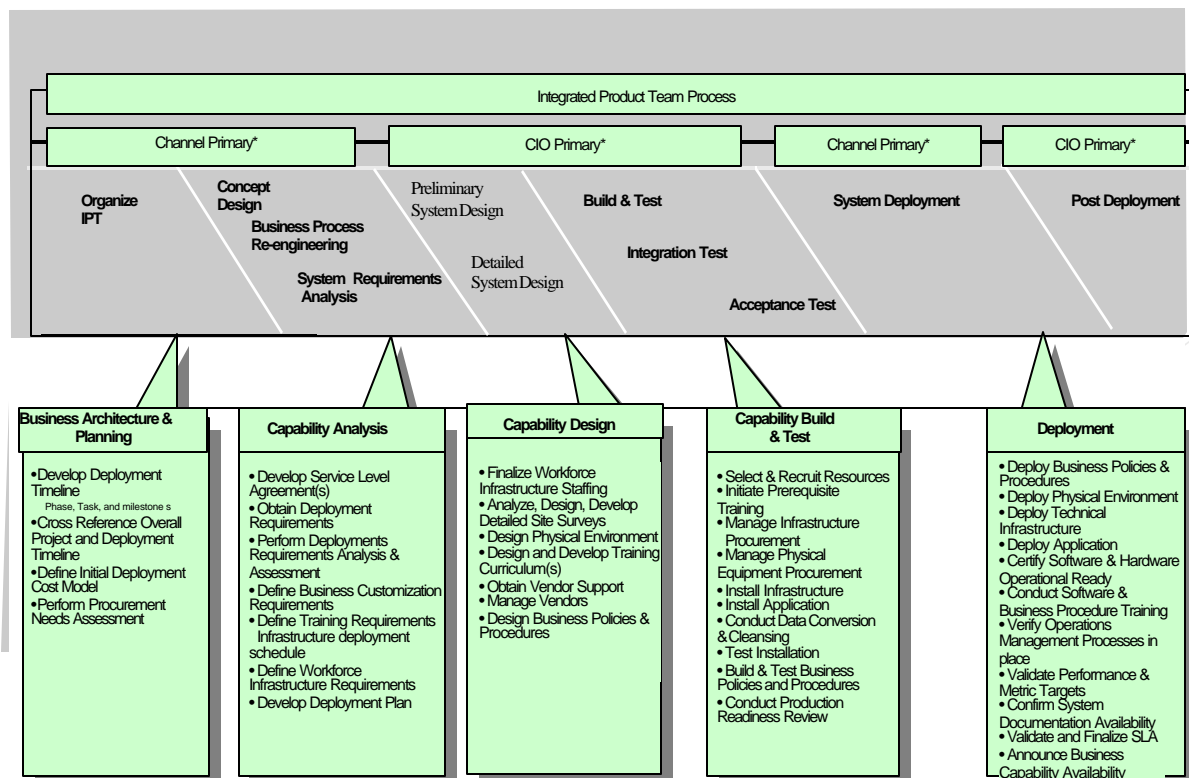
1.3. Current State of Deployment

SFA currently performs deployment in two ways: controlling infrastructure (project level and data center) and by controlling the individual application/system software components. SFA does not have an enterprise level deployment process. Nor does it have an integrated (software, hardware, infrastructure) approach throughout the software development life cycle. Each SFA system is configured and managed by a third party contractor organization. These organizations are tasked with establishing and maintaining the configurations for multiple systems. Because each contractor organization has different methodologies and practices, there is no uniform deployment approach across channel lines.

1.4. IPT Deployment Process Overview

Presented here is a pictorial representation of deployment process and how it fits into SFA's integrated product team (IPT) process. At a glance, the activities intended for each phase of the deployment

Deployment: High Level Process Overview



approach can be mapped to targeted goals within the IPT process. This diagram and those that follow, indicate the types of tasks required, the responsible lead organization and the participating/supporting groups. The next five diagrams break out each of the functional areas and indicates the parties required to execute them. Note, when it states the Channel as a lead or participant of an activity, it is suggested all Channels are represented. However, this will be left to the discretion of the task leader to determine how much involvement is needed.

Business Architecture & Planning

Task	Channel	CIO	Vendors	Other
Develop Deployment Timeline	L	P		
Cross-reference Deployment and Overall Project Timelines	L	P		
Define Initial Deployment Cost Model	L	P		
Perform Initial Deployment Procurement Needs Assessment' -Vendor equip/services delivery -Vendor install and delivery -Vendor facilities build/mod	P	L		
	(L = Leads Task, P = Participates in Task)			

Capability Analysis

Task	Channel	CIO	Vendors	Other
Finalize Infrastructure Staffing	P	L	P	CFO
Analyze, design, develop detailed site surveys	P	L		
Design Physical Environment	L	P		
Design and develop training curriculums	P	L		
Design deployment physical environment layout	P	L	P	
Obtain Vendor Support	P	L	P	CFO
Manage Vendors	L	P	P	
Design Business Policies & Procedures	L	P		
(L = Leads Task, P = Participates in Task)				

Capability Design

Task	Channel	CIO	Vendors	Other
Develop Service Level Agreement & Performance Metrics	L	P	P	Perf Mgmt Group
Obtain Deployment Requirements	L	P		Analysis Group
Perform Deployment Requirements Analysis/Assessment	L	P		
Define Business Customization Requirements	P	L		
Define Training Requirements - applications - system software - vendor training	L	P	P	
Define Workforce Infrastructure Requirements	L	P	P	CFO
Develop Deployment Plan	L	P	P	
	(L = Leads Task, P = Participates in Task)			

Capability Build & Test

Task	Channel	CIO	Vendors	Other
Recruit and Select Resources	L	P	P	
Initiate Prerequisite Training	P	L		
Manage Infrastructure & Physical Equipment Procurement' - Manage vendor coordination and resource scheduling - Manage affected party and stakeholder communications - Manage standards conformance and regulatory approvals - Recruit and select required	P	L	P	CFO
Install Infrastructure		L	P	
Install Application		L	P	
Conduct Data Conversion and Cleansing	P	L	P	
Test Installation	P	L	P	IV&V Vendor
Build & Test Business Policies and Procedures	L			IV&V Vendor
Conduct Production Readiness Review	L	P	P	IV&V Review
	(L = Leads Task, P = Participates in Task)			

Deployment

Task	Channel	CIO	Vendors	Other
Deploy Business Policies & Procedures	L			
Deploy Physical Environment, Technical Infrastructure and Application		L	P	
Certify Software & Hardware Operational Ready	L	P	P	
Conduct Software and Business Procedure Training	L	P	P	
Verify Operations Management Processes	P	L		
Validate Performance and Metrics Targets	L	P		
Confirm System Documentation Available	L			
Validate and Finalize SLA	L	P		
Conduct Production Readiness Review	P	L		
Announce Business Capability Availability	L			

(L = Leads Task, P = Participates in Task)

1.5. Document Organization

The deployment approach includes the primary responsibilities of deployment in the system development life cycle process. Additionally, the steps required to fulfill these responsibilities, plus a high level design of the process and the organization structure that supports deployment are included.

- Section 1: Describes the overall purpose of deployment of the scope of this approach
- Section 2: Describes the deployment key concepts, process steps (business architecture & planning/IRB, capability analysis, capability design, capability build & test, and deployment). This section also describes the organization and the responsibilities allocated to each element of the organization for deployment. The relationship of deployment with other processes and organizations is also discussed in this section.
- Section 3: Describes the next steps required to implement an enterprise-wide deployment Process.

1.6. Document Development

The following organizations and individuals were source of information in writing this approach:

- SFA Enterprise IT Management: Denise Hill
- SFA Enterprise IT Services: David Moore, Phillip Wynn
- SFA E-Commerce Application Development: Constance Davis
- SFA CIO Business Manager: Harry Feely
- SFA CIO (COTR): Carol Seifert
- CSC: Wayne Burgess

The following sources were also used:

- Andersen Consulting Deployment Best Practices
- Andersen Consulting Business Integration Methodology

2 Deployment Approach

An enterprise perspective deployment program requires a number of important steps be taken to realize its benefits. This section summarizes those steps. The backbone for any good approach are a set of key concepts or principles. These concepts are described briefly in the section to follow. The second step involves discussing the deployment processes. Thirdly, there needs to be some discussion on the organizational requirements necessary for the success of the enterprise. And finally, after having understood the concepts, technical processes and required organizational structure, tools to do the job are the only things missing from the equation. Because a successful deployment requires multiple organizational support, the tools in this context, are those which help the supporting organization perform its share of the work. Therefore, there will be no discussion of specific tools/tool requirements in this document. However, the appendix section of this document includes several “soft tools” (forms, templates, example reports) which can be utilized in the deployment activities.

2.1 Key Concepts

There are two perspectives to take into account when considering capability deployment. They are the program and project management viewpoints. These management concepts are very different with respect to deployment. You may wonder why these two concepts are so important to deployment? Since deployment, especially at the enterprise level is primarily a management activity, a key to a successful business capability deployment, is the relationship between the project and program management activities. Thus, the interaction between the two becomes the key concept.

The interaction between the program management and project management disciplines during the deployment stage is governed by the following:

- Planning ahead
- Planning at different levels of detail

These concepts combine the program view and the project view of a business capability.

In the program view (enterprise perspective), program management sees each business capability as a program that has to be deployed in multiple projects or project phases. This view prioritizes the business capability requirements, manages the expectations of the sponsoring organizations in SFA, and manages the complexity of the development effort.

However, in the project view, the SFA stakeholders see the business capabilities as a series of programs that affect the operations of the project. This view prioritizes the project/system-level capability requirements. Expectations managed here concern project interdependencies. Their perspective would be more singularly focused.

Overall plans produced by program and project management are based on the program view. The detailed plans produced by the deployment task packages are based on the project view. The two concepts are highly interdependent and together result in the following capability deployment objectives:

- Approach deliverables for the next stage(s) based on requirements
- Consolidated work plan deliverables based on detailed work plans

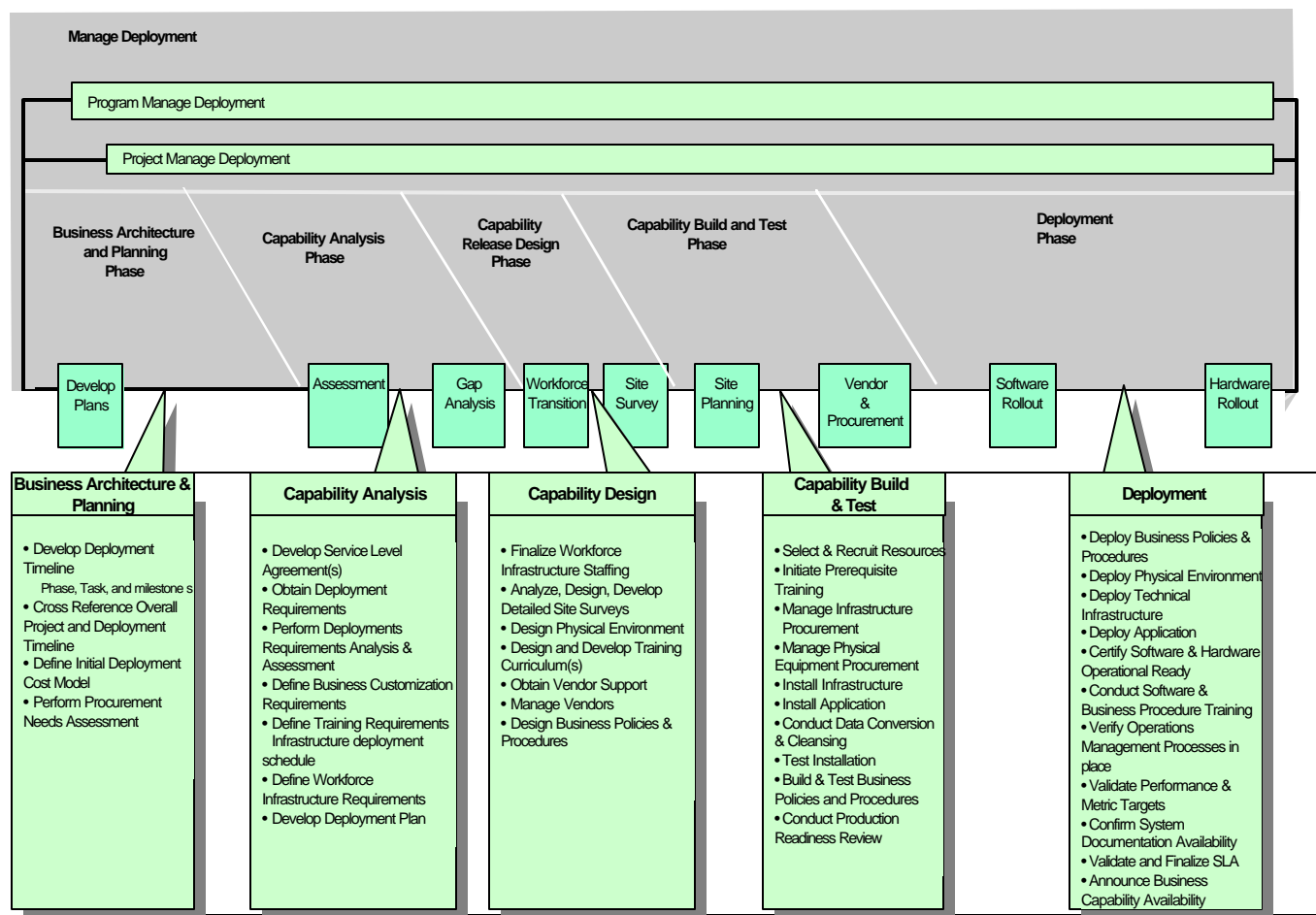
Some examples of this interaction/communication are:

1. Planning delivery tasks receive documented deployment requirements and produce a deployment approach, deployment plan, and other approaches such as procurement and evaluation to be used in later stages (e.g., a development approach to be used in capability release build and test stage).
2. As the capability release design stage progresses, the deployment approach and deployment plan are used as inputs. Detailed approaches and plans are communicated to program and project management.
3. For example, assessing deployment environment tasks utilize the deployment approach and produces a project-specific conversion plan and work plan.
4. Tasks that authorize the building and testing activities receive the detailed work plans and consolidate the overall deployment plan based on more realistic estimates.
5. The revised deployment approach and deployment plan are then used during deployment to revise the deployment activities that are used to revise the project-specific conversion and work plans during the capability release build and test stage.
6. The revised detailed plans are then consolidated at a deployment authorization commit point. The decision to proceed with the deployment effort is made based on the sponsoring SFA organization's commitment. At the same time, it produces an approach for the operation/support of the system.

2.2 Capability Deployment Process

The deployment process exists throughout the full system development life cycle. It can be broken down into five phases. They are: business architecture and planning, capability analysis, capability design, capability build and test, and deployment. Sometimes a sixth is included in the discussion, operational support. However, that subject will be covered in a follow-up approach, post-deployment maintenance. The following pages provide a discussion of the process phases and key activities involved in each phase.

Capability Deployment Process



2.2.1 Business Architecture & Planning/IRB

This phase involves the architectural planning activities associated with the capability to be deployed. Several activities and organizations are involved in this particular phase. The assigned deployment lead(s) work extensively with the overall program/project management team to develop the project plan (which includes the deployment tasks). In addition, program costs estimations and resource needs, are outlined. Listed below are representative number of deployment tasks that should be considered during this planning stage. In particular, tasks that have IRB implications should to be included. They will need to be addressed as soon as possible. Use this list as a start for your planning checklist.

- Develop Deployment Timeline
- Cross-reference Deployment and Overall Project Timelines
- Define Initial Deployment Cost Model
- Perform Initial Deployment Procurement Needs Assessment
 - a) Coordinate vendor equipment/services delivery
 - b) Coordinate vendor installation and delivery
 - c) Coordinate vendor facilities build/modification

2.2.2 Capability Analysis

This phase involves the gathering and analysis of deployment requirements associated with the workforce, physical environment, business processes, application and technology infrastructure. In addition, a determination as to whether additional information/equipment/personnel are required for the approaching capability deployment is performed as well. Listed below are recommendations for tasks that would take place during the capability analysis phase.

- Develop Service Level Agreement & Performance Metrics

Work with the SFA Channel and eCommerce Application representatives to obtain/define the service level agreements. Performance metrics should be defined. Agreement should be reached with the SFA deployment team representatives.

- Obtain Deployment Requirements

Requirements specific to deployment issues/concerns should be collected and assigned for resolution.

- **Perform Deployment Requirements Analysis/Assessment**

These activities include analysis of the current environment in terms of technology, process, people, and sponsorship. The deployment team collects this information through data interviews and gap analysis surveys. The assessment activity should last just long enough to complete the collection the information. These activities could be coordinated with any technical infrastructure assessment being planned.

- **Define Business Customization Requirements**

This entails tailoring the deployment plan to the specific environment to include technology, process and people. The results of the initial assessment and the technical infrastructure assessment together can be used to modify the infrastructure requirements, process designs, and organizational designs. Note, change management/organizational change resources may be an invaluable resource for this activity. The result of this task would be defined benefits realization and defined measurements.

- **Define Training Requirements**

This includes applications, system software, and vendor training for any custom off the shelf (COTS) packages.

- **Define Workforce Infrastructure Requirements**

A needs assessment should be performed. Deployment team member roles and skill sets should be identified.

- **Develop Deployment Plan**

If a phased approach is taken, the detailed tasks to support this form of implementation should be included. This plan should also specify any customization of requirements activity.

2.2.3 Capability Design

The capability design phase of deployment takes the requirements and defines an actual deployable unit. At this point, all requirement related concerns have been addressed and the design activities have begun. However, because deployment covers such a wide array of topics, a list of recommending tasks has been provided below.

- **Finalize Infrastructure Staffing**

Resources requirements should be finalized. Analysis based on needs should have been completed.

- Analyze, design, develop detailed site surveys

Deployment locations surveys have been received and analyzed.

- Design Physical Environment

If new hardware is to be installed, create a new/updated physical layout of deployment site.

- Design and develop training curriculums

This activity involves the creation of operations and user training documentation. Also, the tailoring and packaging of training material used in the delivery of training is performed here. Augmentation any vendor specific training required for deployment occurs as well. In addition, training course(s) train the trainer and pre-requisite)

- Design deployment physical environment layout
- Obtain Vendor Support

Receive equipment and supplies
Coordinate equipment/services delivery
Coordinate installation and delivery
Coordinate facilities build/modification
Manage quality control reviews and certification tests
Remove old equipment, if necessary

- Manage Vendors
- Design Business Policies & Procedures

This task requires coordination with those individuals responsible for training as well. New policies and/or procedures for the end-users that support the deployed applications are designed/written and sent out for review.

2.2.4 Capability Build & Test

This phase involves developing and testing support components for the following deployment areas: workforce, physical environment, business processes, application and technology infrastructure. These areas have been outlined below with more specifics regarding the tasks' objectives.

- **Recruit and Select Resources**

The needs assessment performed earlier helped refine the resource requirements necessary for the deployment activities. If open roles exist, the deployment lead(s) should conduct a short search with the help of their human resources organization. In addition, the recruiting organization should contact the Modernization Partner for support.

- **Initiate Prerequisite Training**

In addition to application specific training, pre-requisite training is also required to bring the personnel up to the required skill level to support the application environment. This activity also includes training users on basic PC/hardware functions, as well as ensuring coordination with technical training.

- **Manage Infrastructure & Physical Equipment Procurement**

Procurement/acquisition represents the action of purchasing new assets. The existing procurement process should be updated with up to date information that allows greater accuracy for planning as well as better asset life cycle management. This would be the initial step for SFA in the process of acquiring new equipment. This acquisition model could also be used by human resources to obtain resources identified by specific skill set requirements. Provided below are recommendations for tasks that should be accounted for during this stage:

- a) Manage vendor coordination and resource scheduling
- b) Manage affected party and stakeholder communications
- c) Manage standards conformance and regulatory approvals
- d) Recruit and select required resources as specified by role definitions
- e) Determine and manage infrastructure software/hardware procurement
- f) Determine and manage physical equipment procurement
- g) Provide progress and expenditure status reports (Program Management)
- h) Provide information to automate a system for asset tagging
- i) Monitor an asset's life cycle
- j) Match assets received with the original purchase orders

- **Install Infrastructure**

- **Install Application**

The purpose of this effort is to ensure that the system has been properly installed. This includes verifying all components of the system are operational and all key data components have been converted to the new data format.

- **Conduct Data Conversion and Cleansing**

Data conversion is primarily comprised of two activities: static data conversion and dynamic data conversion. Static data is defined as all information which is not subject to change during conversion. Dynamic data is defined as all information which is subject to change during conversion.

It also includes all efforts required to convert existing legacy systems or install a new application system. This conversion is performed prior to the point in time when the SFA begins using the application in daily business operations.

- **Test Installation**

With the architecture defined and verified, and support personnel properly trained on the application, a pilot test is performed. A small portion of the network will be identified for pilot testing. This should have been defined as a deployment requirement earlier. If possible, it is recommended that the pilot environment contain multiple databases. This will allow many aspects of the SFA architecture to be examined which could not be accomplished in a lab scenario (i.e., database access and performance issue). If this deployment involves an enterprise initiative, the pilot test should be repeated for each of the eCommerce Applications.

- **Build & Test Business Policies and Procedures**

This task requires coordination with those individuals responsible for training as well. New policies and/or procedures for the end-users that support the deployed applications are designed and written. They are then sent out for review. Updates are performed as necessary.

- **Conduct Production Readiness Review**

2.2.5 Deployment

- **Deploy Business Policies & Procedures**

The business process and role training activities are conducted at this time. This would include training users on executing the proposed new business processes and new roles defined in conjunction with the application.

- **Deploy Physical Environment, Technical Infrastructure and Application**

The tasks of packaging, shipping, installing and configuration of the all physical (facilities, hardware, networking, database servers) and application components (application software, associated initial data) is performed during this phase.

- **Certify Software & Hardware Operational Ready**

Verification and confirmation of the system configuration entails configuring the system to the specific environment. The configuration requirements for this deployment will have been developed as part of deployment requirements customization effort. The system configuration includes tasks such as configuring existing applications to interact with the new applications.

Verification and confirm of the infrastructure is required to ensure that existing infrastructure components are adequate and configured appropriately to support the initiative. This could be coordinated with a technical infrastructure installation and testing task.

- Conduct Software and Business Procedure Training

System Training

This task is performed to train the users on the specific system's functionality. This typically includes screen navigation, data entry, and other system features. Vendors are your primary source for this level of training.

Business Process/Role Training

Includes training users on executing the proposed new business processes/procedures and the new roles defined in conjunction with the deployed application.

- Verify Operations Management Processes are in place

Post conversion activities support includes all immediate activities required by the deployment team (onsite or offsite) to support the conversion until a period of stabilization is reached. This includes activities such as data verification and functionality verification.

Production support tasks are required to provide ongoing production support beyond the stabilization period. This activity should be coordinated closely with any other SFA consolidated technical support efforts.

- Validate Performance and Metrics Targets

Performance and metrics have previously been defined. They should be validated with the SFA management team. The performance measurement process defined by the program management office should be utilized during the post-deployment maintenance phase.

- Confirm System Documentation Available
- Validate and Finalize SLA

Should work with the SFA representatives to validate and finalize the previously obtained service level agreement and operating level agreements. They should be signed off and made a part of the ongoing analysis and evaluation activity.

- **Announce Business Capability Availability**

The communication approach should be modified as additional groups impacted by deployment are identified during Stakeholder meetings conducted in detailed design. SFA stake-holders should communicate any SFA initiatives that may influence the deployment schedule. Working in collaboration with the SFA CIO, Channels and COO, a communications plan, announcing the availability of the business capability, should be produced.

2.3 Organization and Responsibilities

The deployment approach aligns with the release management processes defined in the configuration management approach. Involvement in deployment activities by the proper organizations will ensure effective lines of authority, supervision, and communication. This section describes the deployment related project organization, details the authority and the specific responsibilities for deployment for each element throughout the project life cycle. In addition, it identifies the specific resources necessary to perform the deployment functions effectively.

2.3.1 Program Management

Project management, with assurances from the program management office, approves the deployment planning, policy, and associated procedures to implement the business capability. A key task of management is to review and approve personnel, resources, and equipment required to complete the deployment.

2.3.2 Deployment Team

The deployment team is a virtual organization. It consists of representatives of system integration & testing, configuration management, e-commerce application development, and post-deployment & maintenance. A deployment manager (lead) is assigned to each project development team. Note, this individual could be an existing member of the project team and/or IPT. They are the point of contact for all issues regarding deployment for the specified project.

In addition, the deployment managers and their respective teams have additional external event tracking responsibilities. This activity, which is often overlooked, emphasizes that management must be aware of the impact of all other initiatives occurring in the sponsoring organization on business capability deployment, and vice versa.

The deployment team's duties and responsibilities will include the following:

- Monitoring the deployment specific needs/requirements of the project.
- Identifying and escalating issues that have an cross organizational impact.
- Managing the overall deployment process. Each deployment manager assumes the lead role for all deployment concerns for the assigned projects.
- Develop, maintain and manage the deployment schedule(s).
- Coordinate the tasking of the virtual team members.

2.3.3 Configuration Management Organization

Configuration management will be responsible for maintaining the CM plan and implementing the CM procedures. This function will also maintain the system databases that document change status, prepare and distribute configuration status accounting and tracking reports to appropriate project and client personnel. The CM will provide guidance and assistance on all SFA CM issues. The CM responsibilities will include the following major activities:

- Controlling production baseline.
- Ensuring the change and report tracking is kept current for change request and maintaining a history of such changes.
- Moving source code into a CM controlled area and performing system builds. Maintaining the system baselines.
- Packaging the source code (and database structures) for deployment.
- Preparing project master release tapes from the CM library and delivering them to the deployment lead for distribution to the client environment(s).
- Controlling and validating all hardware baselines that will support the SFA deployment requirements.
- Capturing and maintaining deployment log of system discrepancies, issues, problem reports on the delivered configuration items.

2.3.4 Quality Assurance/Validation & Verification

The quality assurance/validation & verification organization will be responsible for audit reporting and baseline validation of the business capability:

- Auditing the CM program and implementation.
- Auditing the projects production baseline.
- Validating that all approved change requests have been tested and approved, prior to installation.
- Audits of configurations after they have been installed, configured, tested and certified.

- Certifying the deployment hardware/software utilizing a verification and validation method.

2.3.5 Development Team(s)

The development team lead is an important member of the deployment organizational structure. The development team lead and the respective project deployment manager are responsible for identifying and packaging each of the configuration items which make up a unique version and handing this off to the deployment team. Actually, the physical handling of the configuration items will be conducted by the configuration management team. The development team lead, with the help of the deployment manager, must ensure that the integrity of the solution is maintained once a change has been implemented in a particular development/integration baseline.

2.3.6 Virtual Data Center (VDC)

The virtual data center team will be responsible for the configuration, maintenance, upgrade and tracking of all infrastructure (hardware, system software, communications, database, network) components destined for deployment.

Configuration item change(s)/update(s) will be coordinated with the deployment team via the configuration control board process. In addition, the virtual data center will conduct performance and capacity planning tasks.

2.3.7 Configuration Control Board (CCB)

The suggestion to deploy a proposed business capability may come from multiple levels within the organization. However, the actual decision to move forward with these activities, is reached via the convening of a configuration control board.

The configuration control board ensures that changes are prioritized, coordinated, controlled and integrated within the program quality framework and result in real, tangible benefits. Authorized changes are included in a business capability deployment plan .

The table below provides a summary of the SFA organizational support necessary for a successful system deployment. In addition, it provides the high-level support roles they must provide during the hardware and software implementation phase of the deployment process.

Deployment Support Summary

Organization/Team	Implementation Support
Enterprise IT Management	<input type="checkbox"/> Assess Work to be done <input type="checkbox"/> Agree on Site Workplan Dates <input type="checkbox"/> Delegate Work <input type="checkbox"/> Track Status of Work
Program Management Office	<input type="checkbox"/> Lease and Building Code Information <input type="checkbox"/> Initiate Installation of AC Units, Power Supplies (UPS), Furniture <input type="checkbox"/> Construction (i.e. LAN Room, Floor Plan)
Deployment Team	<input type="checkbox"/> Workplan Creation – Overall and Site Specific <input type="checkbox"/> Track Deployment Status <input type="checkbox"/> Coordinate Site Kick-off Meetings
Enterprise IT Services & Virtual Data Center	<input type="checkbox"/> Support UNIX Products Running on Mid-Range Server Hardware <input type="checkbox"/> Ensure Systems and Software are Available for End User. <input type="checkbox"/> Support Legacy Products Running on Mainframe
Enterprise IT Applications (Development Teams) Enterprise IT Services & Virtual Data Center	<input type="checkbox"/> Desktop Image <input type="checkbox"/> Desktop Architecture <input type="checkbox"/> Hardware Cost Estimates
	<input type="checkbox"/> Design, Develop, Test LAN/WAN Network Infrastructure <input type="checkbox"/> Design LAN/WAN Implementation Plan
	<input type="checkbox"/> Stage and Remove Desktops <input type="checkbox"/> Cabling <input type="checkbox"/> Install Hubs and Routers (Infrastructure) <input type="checkbox"/> LAN Wiring <input type="checkbox"/> Desktop Installation <input type="checkbox"/> Hardware Cut-over Testing and Certification

3 Next Steps and Implementation Plan

3.1 Next Steps

3.1.1 Identify the Implementers of Enterprise Deployment

Upon the decision to move forward, the first step required to fulfill the need of an enterprise focused deployment organization is to build the support organization that is going to drive it. However, to start, someone or some team must be defined to lead the charge. They should be tasked with the responsibility for obtaining and identifying the resources and implementing the organizational structure for the SFA. Tasked with this responsibility, one of the first decisions that needs to be made is whether the SFA would be better suited if the deployment team were composed of SFA staffers or whether it should be outsourced. Our recommendation is the Modernization Partner Enterprise Architecture Team – Delivery QA unit, be tasked to work with the CIO Enterprise IT eCommerce Applications, Management and Services organizations to implement the necessary structures, policies, procedures and guidelines. This is recommended because the potential time lag in identifying and mobilizing the appropriately skilled SFA personnel, could be offset by the readily available resources of Modernization Partner. Utilizing Modernization Partner personnel at least for the first phase of implementation would afford the SFA ample time to conduct a personnel search (and training). Upon, the conclusion of the first phase and once the organization has become operational, at the SFA discretion, the deployment team could revert to a SFA operation.

3.1.2 Define Scope of Implementation and Timeline

The second step is to define the scope of the implementation and determine how much time should be allocated to implement it. This endeavor can not be accomplished over night. The scope in this case could mean multiple things. For instance, the size and makeup of the deployment team must be determined beforehand.

A phased implementation approach will be required to implement something of this magnitude. A detailed project plan must be developed containing well defined tasks/objectives with measurable milestones. One individual working with the CIO Enterprise IT Management team could produce the detailed project plan in the next period.

3.1.3 Mobilize Implementation Team

The third step is to mobilize the implementation team (obtain the resources, conduct training – if required, make task assignments and begin working the project plan tasks).

3.2 Implementation Plan

3.2.1 Assemble Organization for Deployment

The deployment team will be a virtual team. It needs to be composed of representatives from the following: CIO IT Management, CIO IT eCommerce Applications, CIO IT Services, IPT and COO. This team will implement the deployment approach by integrating the deployment activities into the eCommerce application systems development work or identify a member of the development team who will be tasked with these responsibilities. They would then become responsible for providing deployment with updates on activities. Because deployment is a cross organizational management function, the ultimate responsible organization for deployment should be the CIO IT Management group.

3.2.2 Prepare Deployment Environment

3.2.2.1 Establish an Environment on Pilot Platform

It is important to establish an environment where the deployment model will be tested. It is important to review the proposed deployment model before doing any pilot. A deployment technical specifications document should be created.

3.2.2.2 Develop “Proof of Concept”

A “proof of concept” for the defined deployment environment should be developed. If the pilot is successful, this solution would be a candidate for the deployment model that could be rolled out to other SFA projects. Representatives from all aspects of the development lifecycle must have input in this phase; development, test, and CM support.

3.2.2.3 Certify Environment

The objective of this step is to construct and certify technical environments in support of development and test activities. Here, components are created, linked and certified to ensure the technical environment is established. In addition, service level agreements (SLAs) are established and support procedures are defined.

3.2.2.4 Train Personnel in Deployment Processes and Tool

Deployment training has several aspects, and the first is the recognition that to operate effectively people need training; shoveling untrained people into a deployment process is unproductive.

Train Personnel in overall process

The first step is to ensure that everybody in the SFA organization that is affected by deployment understands the overall process. A deployment training that teaches the basics of deployment should be established. Every person involved in the deployment process should attend this training.

Organisational Training

In an environment with multiple systems like SFA, organizational training is crucial. Individuals from different project teams need to work together to accomplish desired ends. The organization as a whole, when first established, will be inefficient, and an allowance should be made for this factor. One successful approach to organizational training is to establish the deployment organization with a nucleus of people before putting the new deployment process in place. This allows the team to organize the teams, establish the detailed written procedures by which each individual team will operate, test the procedures out, and modify them to the point at which a person a workable solution.

3.2.2.5 Measuring Deployment

The deployment electronic media libraries are rich sources of data and can easily be mined to obtain significant insight, not only into the deployment process but into the overall project operation itself.

Deployment Metrics

Metrics should be used to provide indicators of where improvements can be made. In terms of deployment, process metrics are directly available. Metrics might include such items such as: 1) the number of changes processed by the deployment team and the status of these changes plotted against time, and 2) the number of problem reports and the status of these problem reports against time

4 Appendix A: Deployment Assumption, Issues & Risks

4.1 Assumptions Checklist

Below some assumptions that can be used in SFA deployment planning.

Conversion

The reference data and on-line interfaces will be designed, coded, and tested prior to Pilot Site deployment

SFA customer service will be able to route calls based upon the deployment's conversion schedule

SFA data conversion team will convert data based upon deployment's conversion schedule

Files on customer service representatives' hard-drives will not be converted during desktop hardware upgrade

Customer service representatives will have access to both the new application systems and host legacy systems during conversion in order to negotiate service orders for both converted and non-converted customers

Customer service representatives will be trained during partial service center shutdown training

Communications

The communication approach will be modified as additional groups impacted by deployment are identified during Stakeholder meetings conducted in detailed design

Key stake-holders will communicate any SFA initiatives that may influence the deployment schedule

Training

Customer service representatives will be scheduled for weekly training sessions and will be able to attend the full facilitator-led conversion training session (if required)

The architecture and application can be installed sufficiently prior to conversion in order to support conversion training

Products and some business processes will continue to change over time and must be evaluated for their impacts on SFA roll-out

Separate training data will be developed for each region in order to facilitate customer service representative training

Testing

Pilot testing will be certified at a centralized location prior to software deployment

A team composed of different users and outside consultants (IPT representatives) will provide supervision and execution of the testing activities

A test database has been developed and tested

Legacy system's service level agreements will be the basis for SFA deployment standards

The new application interfaces have been successfully developed

System performance issues are negligible

The new application database tables are populated with the correct reference data

Guidelines will be established for issues encountered during testing

Certification Procedures

The identified certification teams/IV&V will be available full-time during certification testing
Certification test scripts will be developed during SFA's capability design phase
All external systems have been technically and functionally certified prior to production cut-over
Host legacy systems will not be altered prior to deployment.

Alignment Plan

The SFA system to provide reference data conversion and on-line interfaces must be designed, coded, and tested before the Pilot Site deployment date
Functional requirements have been certified prior to deployment
User acceptance testing has been successfully completed before the pilot site deployment date.

Cost Model

Desktop cost estimates were based upon negotiated discounts with vendors
UNIX server and network equipment costs are based on list prices (negotiated) supplied by vendors
The test and development environment costs include # servers, # desktops and required software
File, print, and fax servers are not included in this cost estimate, because of uncertainty regarding their requirements
Vendor discounts are not included for servers, LAN/WAN, and Mainframe hardware costs
Maintenance costs are not included as part of capital cost estimate
All computers are Y2K compliant, unless otherwise noted.

Desktop Hardware, Software, and Operating System

SFA enterprise services organization will provide the hardware and software costs
The preferred desktop operating system plus approved desktop software image will be designed/developed/tested prior to deployment
The responsible sub-contractor or computer manufacturer will install the software image on the desktops.

Year 2000 Compliance

All computer are Year 2000 compliant.

Technical Architecture

The SFA enterprise technical architecture team will utilize high-availability configurations during their design phase
The SFA technical architecture will remain consistent and/or compatible with the architectures that currently exist
SFA will deploy application and database servers in pairs utilizing high-availability configurations

4.2 Issues/Risks

This section outlines the risks that have been identified during deployment. A risk is defined as an external factor that may jeopardize the success of the deployment effort. The risks listed below will be addressed during design and development of the SFA project.

Deployment Timeline

The success of the SFA project relies on deploying the new application in time to meet the customer needs. Listed below are issues that may put the project deployment timeline at risk:

1. The new application is one of many strategic initiatives at SFA. Overall program and journey management will be critical to ensure that additional initiatives do not have a negative impact on the deployment schedule.
2. Proposed deployment approach depends heavily on the cooperation of local SFA personnel.
3. Unanticipated vendor delays of network, desktop, and facilities may impact scheduling.

Business Impact

The overall approach of the SFA deployment in the development of the new application deployment approach was to meet the aggressive roll-out schedule, while minimizing SFA business impact. Listed below are issues that may impede the business processes of SFA's new application:

1. The proposed partial shutdown of SFA customer service for final cut-over training would result in an increased volume of calls for the supporting call centers. This may cause performance metrics and service level agreements of the supporting centers to exceed acceptable limits.
2. The scheduled new application deployment date may coincide with a SFA's seasonal call volume increase. An increase in the new application converted customer calls may affect service level agreement if a customer service's deployment schedule is delayed.
3. Unidentified workarounds may lengthen the estimated duration of the new application's customer service representative training.

Logistical

Site assessments will be conducted for the SFA locations slotted for the new application systems upgrade. The assessment will examine the environmental and network readiness of the sites. Until the locations have been assessed, the following risks apply:

1. Customer service/IT Services may not be able to physically support network demands proposed for SFA deployment (site planning and preparation).
2. LAN room requirements will be developed during the capability design phase of the SFA technical architecture. These technical requirements may require the current LAN rooms to undergo extensive revamping.
3. The SFA deployment approach depends heavily on support from SFA IT and customer service personnel. Customer service in the SFA may not be able to support the resource requirements of the proposed deployment approach.
4. Hardware vendors may not be able to supply equipment at the rate outlined by the deployment schedule.

5 Appendix B: Candidate Checklists

5.1 Pilot Test Entry & Exit Criteria

Application:		Release:	
Milestone Chart id:		Milestone Target Complete Date:	
Previous Stage:	Acceptance Test 2	Next Stage:	Deployment (Installation and Training)

Pilot Test should not begin until the following are complete:

	To ENTER Pilot Test:	Responsible	Y/N?	Status
1.	Are technical test exit criteria signed off?			
2.	Have pilot test success measures been defined?			
3.	Has the communication plan been completed?			
4.	Have pilot test users been identified and communicated to regarding participation?			
5.	Has pilot test been scheduled and users notified?			
6.	Have users confirmed participation in pilot test?			
7.	Are pilot test trainer resources identified and confirmed?			
8.	Are training methods determined?			
9.	Are training materials complete?			
10.	Has acceptance test been re-verified in production environment?			
11.	Are beta site installation instructions complete?			
12.	Have server updates been made for beta trail?			
13.	Have database updates been made for beta trail?			
14.	Has process organization scheduled to observe beta trail?			
15.	Has process organization test plan been created?			
Approved by:		Date:		

Pilot Test MUST complete the following before training and installation can begin:

	To EXIT Pilot Test:	Responsible	Y/N?	Status
16.	Are the users able to perform key functional scenarios?			
17.	Can users accept and utilize application productively with outstanding defects?			
18.	Has the process organization tested and signed off process changes?			
19.	Has the process organization evaluated the way the system is used and presented observation results?			
20.	Have defined success measures been met?			
Approved by:		Date:		

5.2 Deployment Entry & Exit Criteria

Application:		Release:	
Milestone Chart id:		Milestone Target Complete Date:	
Previous Stage:	Pilot Test	Next Stage:	N/A

Deployment should not begin until the following are complete:

	To ENTER Deployment:	Responsible	Y/N?	Status
21.	Has Pilot Test been signed off?			
22.	Has acceptance test been re-verified in production environment?			
23.	Has the communication plan been completed?			
24.	Has user community by individual been identified?			
25.	Have updates to training methods and materials been made?			
26.	Has training been scheduled and users notified?			
27.	Have users confirmed participation in training?			
28.	Have physical site arrangements been made for training?			
29.	Have physical site arrangements been made for desktop installation?			
30.	Have trainer resources been identified and confirmed?			
31.	Has training schedule been developed, published, and distributed?			
32.	Has training been scheduled and users notified?			
33.	Have users confirmed participation in training?			
34.	Have server updates been made in training environment?			
35.	Have database updates been made for training environment?			
36.	Are installation instructions complete?			
37.	Has deployment methodology to production been defined?			
38.	Have installation resources been defined?			
39.	Have server updates been made production environment?			
40.	Have database updates been made for production environment?			
Approved by:		Date:		

Deployment MUST complete the following:

	To EXIT Deployment:	Responsible	Y/N?	Status
41.	Are all targeted users trained?			
42.	Are all targeted users able to access and use the application?			
43.	Are functionality reference materials available to users?			
44.	Have defined success measures been met?			
Approved by:		Date:		

5.3 Success Measures (example)

Application:		Release:	
Approved by:		Date:	

	SFA Stakeholder/ Responsible	Expectation/Objective	Measure/ Target	Priority	Y/N ?	Status (if no, Actions Required)
1.	CIO Enterprise IT eCommerce Application	e.g. Enhanced functionality and hence benefits are realized by users.	e.g. provides 20% more sales leads	High		
2.	SFA Channels	e.g. Ownership of new functionality has been identified and sustained.	e.g. project inception through deployment completion	Medium		
3.	SFA Channels	e.g. Pre-defined performance metrics have been achieved.	e.g. cuts by 50 seconds	Low		
4.	CIO Enterprise IT Management	e.g. Functionality and benefits of new system or application enhancements are communicated with clarity.	e.g. proficiency level of x has been obtained	Medium		
5.	CIO Enterprise IT Services	e.g. Deployment of new functionality does not lockup the desktop/mainframe environment.	e.g. no reported system errors after first week of deployment	High		
6.	SFA Channels	e.g. Usage targets have been meet.	e.g. all accessed new functionality at least once	Medium		

5.4 Deployment Readiness

Site Planning & Preparation Checklist

Status Reporting

- ☐ Site Status Meetings Established
- ☐ All Delivered Equipment Inventoried
- ☐ Train-the-Trainer Coordinated

Site Workplan Completed

- ☐ Site Workplan Developed
- ☐ Site Workplan Maintenance Procedures Established

Site Prepared

- ☐ Initial Site Meeting Prepared and Conducted
- ☐ Hours of Availability for Resources and Hours of Operations Determined
- ☐ Work Schedule with Local Support Teams Coordinated
- ☐ Site Survey Assessment Validated
- ☐ Status of Purchase Orders, Work Orders Checked

Server Room Built/Upgraded

- ☐ Server Room Built and/or Verified
- ☐ Data Cabinets & Equipment Racks Installed and/or Verified
- ☐ Raised Floor Installed and/or Verified
- ☐ HVAC Installed and/or Verified
- ☐ Power Installed and/or Verified
- ☐ Cabling Installed and/or Verified
- ☐ Server Room Certified

Communications Room Built/Upgraded

- ☐ Communications Room Built and/or Verified
- ☐ Data Cabinets & Equipment Racks Installed and/or Verified
- ☐ HVAC Installed and/or Verified
- ☐ Power Installed and/or Verified
- ☐ Cabling Installed and/or Verified
- ☐ Communications Room Certified

Network Operating System and Notes Forms Completed

New Network Components Installed

- ❑ Existing LAN Connections Re-wired
- ❑ Network Equipment Installed
- ❑ Network Equipment Configured
- ❑ Network Certified

Test PC/Workstation Installed

Training PCs/Workstations Installed

- ❑ Training Procedures Reviewed
- ❑ Training PCs/Workstations Installed
- ❑ Training PCs/Workstations Installation Certified

Site Planning & Preparation Tests Completed

- ❑ Network & Environmental Tests Performed

Site Planning & Preparation Certification Completed

- ❑ Network & Environmental Certification Procedures Performed

Hardware Cut-Over

Servers Installed

- ❑ Hardware from Staging Received
- ❑ All Orders per Checklist Inventoried
- ❑ Hardware per Specifications Installed
- ❑ Appropriate Data Tables Loaded
- ❑ Current Performance Data Analyzed
- ❑ SFA Legacy Applications and Database Servers Installed
- ❑ SFA Legacy Applications and Database Servers Tested and Certified
- ❑ SFA Legacy Applications and Database Servers Installation Complete
- ❑ UNIX Applications and Sybase Servers Installed
- ❑ UNIX Servers Tested and Certified
- ❑ UNIX Server Installation Complete

Desktops Installed

- ❑ Desktops Installed
- ❑ Desktop Installation Certified
- ❑ Desktop Installation Completed

Hardware Cut-over Completed

- ❑ Network & Environmental Tests Performed
- ❑ Network & Environmental Certification Procedures Performed

Software Implementation

Software Installed

- ❑ Application Software and/or Job Aids Installed

Software Implementation Tests Completed

- ❑ Application Software and Hardware Installation Tests Performed

Software Implementation Certification Completed

- ❑ Application Software and Hardware Installation Certification Performed
- ❑ Customer Access Certification Performed
- ❑ Training Certification Performed

Software Implementation Training Completed

- ❑ Application Training Conducted

Final Site Certification

Final Site Certification Completed

- Access Metrics Analyzed
- Business Integration Certification Procedures Performed

Post-Conversion Support

Post-Conversion Support Completed

- ❑ SFA Feedback Gathered
- ❑ Technical Support Provided
- ❑ Functional Support Provided
- ❑ Feedback to the Support Organization Provided
- ❑ Lessons Learned Documented

High-Level Project Summary:

Scope:

Site Schedule

Planned Meetings:

- ## Quality

- Andersen Consulting

Priority 1 Issues:

The issues listed below are Priority 1 issues documented in the issue database.

Total Issues	Open Priority 1 Issues	Open Priority 2 & 3 Issues	Total Closed

OPEN ISSUES:

- ☐ **Issue Number :** Describe issue here.
Progress: Describe progress made since previous report.
Expected Resolution Date:
- ☐ **Issue Number :** Describe issue here.
Progress: Describe progress made since previous report.
Expected Resolution Date:

CLOSED ISSUES:

- ☐ **Issue Number :** Describe issue here.
Resolution: Describe how the issue was resolved.
Resolution Date:
- ☐ **Issue Number :** Describe issue here.
Resolution: Describe how the issue was resolved.
Resolution Date:

Risks:

- ☐ Describe significant project risk. This is something that will put the project in jeopardy.
Mitigation: Describe what is being done to mitigate the risk.

Time:

SFA Status:

Site Name, Address Here

Infrastructure Equipment	Indicator G/Y/R	Preliminary Order Issue Date	Order Issue Date	Est. Equip. Delivery Date	Actual Equip. Delivery Date
PCs					

Infra Wiring					
Printers					
T1 Lines					
Hubs/Routers					
Phase	Indicator G/Y/R	Est. Completion Date	Adjusted Completion Date	Completion Date	
Site Planning					
Hardware Cut-over					

Progress:

☐ Document site-specific accomplishments, milestones, and issues here.

Site B, Address

Infrastructure Equipment	Indicator G/Y/R	Preliminary Order Issue Date	Order Issue Date	Est. Equip. Delivery Date	Actual Equip. Delivery Date
PCs					
Infra Wiring					
Furniture					
Printers					
T1 Lines					
Hubs/Routers					
Phase	Indicator G/Y/R	Est. Completion Date	Adjusted Completion Date	Completion Date	
Site Planning					
Hardware Cut-over					

Progress:

☐ Document site-specific accomplishments, milestones, and issues here.

Site C, 7th & D Street SW Washington, DC

Infrastructure Equipment	Indicator G/Y/R	Preliminary Order Issue Date	Order Issue Date	Est. Equip. Delivery Date	Actual Equip. Delivery Date
PCs					
Infra Wiring					
Furniture					
Printers					
T1 Lines					

Hubs/Routers					
Phase	Indicator G/Y/R	Est. Completion Date	Adjusted Completion Date	Completion Date	
Site Planning					
Hardware Cut-over					

Progress:

Document

5.6 Sample Deployment Templates

Change Control Risk/Impact Examples

Tasks	Risk/Impact		
	High	Medium	Low
Install a new server			x
Server replacement	x		
Server move		x	
Add/replace/remove server hardware	x		
Upgrade server system software (NT, UNIX, Mainframe, specify other)	x		
Reboot server hardware		x	
Modify/update “standard” applications on server (MS Office Suite, MS Mail, MS Scheduler+, etc.)		x	
Modify/update “business” applications on server		x	
Modify/update		x	
Remove “standard” applications on server			x
Remove “business” (TBD) applications on server			x
Upgrade system software	x		
Upgrade workstation software			x
Reboot hardware		x	
Modify hardware		x	
Install router card		x	
Upgrade router software	x		
Install hub card			x
Upgrade hub firmware		x	

Change LAN printer queue name		x	
Modify system login script		x	
Call Center PBX/ACD system	x		
Call Center IVR system	x		
Call Center Application	x		

Change Control Readiness Checklist

The following checklist is to be used when the change request is ready to be deployed to the production environment. The following checklist items may or may not be required depending upon the change:

Checklist Description
1. Backout/rollback instructions have been provided to deployment management
2. The appropriate impact analysis are been completed and given to deployment management and will be presented at the Weekly Change Meeting. An impact analysis may include: <ul style="list-style-type: none">• end users• workstations• file servers• application servers• database servers• dependencies to other applications, databases and systems• server levels
3. An SLA is complete and operations is ready to meet SLAs
4. End users and support personnel have been trained on the new change
5. Documentation or documentation changes have been included
6. Ensure that the application has been successfully installed and certified in the certification test lab and a package has been created and tested.
7. Confirm the release packages are ready for deployment as scheduled
8. Ensure that an operations guide is complete for new applications and, if necessary, for application updates. Ensure that transition meetings have been held to transition the application/system to the appropriate support personnel.

Change Control Process Summary

Step	Complete
Change Requester	
1. Work with the appropriate IT support teams to develop a deployment plan and complete the impact analysis(s), if necessary.	
2. Submit change control form as soon request is aware of a production change.	
3. Ensure that a SLA is complete, if necessary	
4. Ensure backout/rollback instructions are complete.	
5. Ensure that an operations guide is complete and the appropriate transition meetings are complete, if necessary.	
6. Attend weekly change review meeting, when change is presented.	
7. Coordinate training with the training coordinator, if necessary.	
8. Ensure appropriate IT teams, end users, customer service representatives, etc. are trained, prior to deployment.	
9. If change requester is the person making the change, continuously communicate with the customer service organization, end users, business owners, etc. as the change is implemented.	
Configuration Management	
1. Track problems and incidents which require a change to the production environment in order for the incident to be closed.	
2. Close trouble ticket once change has been implemented and validated.	
Configuration Management Coordinator	
1. Review and log requests	
2. Approve low impact requests	
3. Ensure the change control checklist is complete	
4. Ensure change approval has been obtained	
5. Coordinate a meeting between the requester and appropriate IT team, if necessary.	
6. Distribute weekly reports and coordinate the weekly change review meeting.	
7. Log weekly meeting outcomes	
8. Notify requester of scheduled deployment date(s)	
9. If necessary, work with the requester and other deployment management teams to determine and adjust the deployment schedule.	
10. Update change request status and include any additional notes	
11. Monitor and communicate the progress of the change request	

Weekly Change Meeting Participants	
1. Identify and resolve conflicts	
2. Prioritize requests and identify proposed schedule changes	
3. Approve, reject, defer or assign as pending each change request	
4. Send an alternate if the primary member can not attend the weekly meeting	

Deployment Planning Indicators (sample)

Level 1

Assessment Indicators: Process Performance

General: Ensure that base practices are performed

<i>General</i>	<i>Example of Assessment Indicator</i>	<i>Assessment Indicators at Client</i>	<i>Score</i>
Deployment Schedule Confirmation	Feedback is received during a meeting noting the approval of deployment. An electronic or hard copy schedule noting preparation training and user types is available.		
Deployment Schedule Impact Assessment	When questioned, personnel can describe what would impact a deployment schedule. Examples of impact assessments should exist.		
Deployment Schedule Adjustment	When questioned, personnel can describe how changes to schedule are made, communicated etc.		
Deployment Contingency Planning	A template for backup plans and contingency plans exist. Examples of backup and contingency plans should exist.		

Level 2

<i>Process Attribute</i>	<i>General</i>	<i>Example of Assessment Indicator</i>	<i>Assessment Indicators at Client</i>	<i>Score</i>
Performance Management	Establish and maintain a policy for performing operational tasks	Policy regarding deployment and the synchronized efforts of other process areas is established and followed.		
	Allocate sufficient resources to meet expectations	All deployment personnel have access to software tools, schedules, and feedback necessary in order to complete their tasks.		
	Ensure personnel receive the appropriate type and amount of training	Training policy is in place for new deployment personnel regarding, procedures, technologies, software, etc. Organization wide users are aware of the capabilities within the deployment group.		
	Collect data to measure performance	Data is collected, for example: number of batch jobs per month, number of hours per batch job, etc.		
	Maintain communication among team members	Feedback might be collected via meetings and reports from physical planning and management regarding lead times.		
Work Product Management	Ensure work products satisfy documented requirements	Deployment schedules are complete with all necessary data (e.g. lead time, external/internal groups effected, resources, etc.).		
	Employ version control to manage changes to work products	Approvals are gained on schedules to accommodate the latest issues noted on current deployment plan.		

Level 3 Assessment Indicators

<i>Process Attribute</i>	<i>General</i>	<i>Example of Assessment Indicator</i>	<i>Assessment Indicators at Client</i>	<i>Score</i>
<i>Process Definition</i>	Define policies and procedures at an IT level	There is one centralized deployment plan vs. multiple plans throughout SFA in compliance with policies and procedures.		
	Define tasks that satisfy the process purpose and business goals consistently and repeatedly	New employees receive training on the deployment process and subsequent new technologies, processes, software, etc. Future employment needs are also considered.		
<i>Process Resource</i>	Plan for human resources proactively	Deployment schedule is always handled according to stated policy versus an ad hoc approach.		
	Provide feedback in order to maintain knowledge and experience	Deployment solicits and provides feedback from external and internal groups for issues/problems and changes that should be reflected on the schedule.		

Level 4 Assessment Indicators

<i>Process Attribute</i>	<i>General</i>	<i>Example of Assessment Indicator</i>	<i>Assessment Indicators at Client</i>	<i>Score</i>
Process Measurement	Establish measurable quality objectives for the operations environment	Deployment plan is based on strategic business needs vs. industry standards.		
	Automate data collection	Metrics are automatically collected from the deployment schedule vs. collected manually		
	Provide adequate resources and infrastructure for data collection	Metrics automatically collected by deployment personnel are analyzed and reported. Deployment software tool maybe linked to physical site management schedule and might reflect scheduling conflict via e-mail message.		
Process Control	Use data analysis methods and tools to manage and improve the process	Deployment is evaluated against performance goals and metrics for suggested improvements and revisions to the process.		

Level 5 Assessment Indicators

<i>Process Attribute</i>	<i>General</i>	<i>Example of Assessment Indicator</i>	<i>Assessment Indicators at Client</i>	<i>Score</i>
<i>Continuous Improvement</i>	Continually improve tasks and processes	Deployment issues are continuously improved via incremental changes, for example: e-mail survey information may be collected from external and internal parties vs. hard copy surveys.		
<i>Process Change</i>	Deploy “best practices” across the IT organization	Process improvement is validated via metrics and business goals, for example: by collecting data via e-mail survey 20% more external responses were received which decreased deployment planning for later phases by 30%.		

Process Capability Assessment Instrument: Interview Guide

Deployment Planning
Questions
Base Practice: Deployment Schedule Confirmation
1. Does the deployment schedule include deployment dates, training time, back-out strategy, physical site preparation, locations, numbers and type of users involved, either internal and/or external? Please explain in detail.
2. What is the procedure for identifying, assigning, and defining responsibilities and schedules to key internal and external deployment groups? Is this being done? How often are people re-assigned different responsibilities based on schedules and need?
3. How often are meetings set with internal and/or external groups to discuss deployment activities?
4. What avenues are available to internal/external groups to communicate and provide feedback regarding deployment activities (e.g. meetings, video/conference calls, hardcopy, email, etc.)?
Base Practice: Deployment Schedule Impact Assessment
1. Is lead-time provided to internal/external groups so they may evaluate any issues or problems? If yes, how long?
2. Are required resources (e.g. personnel, time, software, hardware, etc.) reviewed individually for deployment schedule purposes? What resources do you take into consideration?
3. Who is responsible for collecting internal/external group responses regarding deployment issues? Is this communicated to all SFA stakeholders?
Base Practice: Deployment Schedule Adjustment
1. Have deployment schedules been changed to reflect issues and problems from SFA stakeholders? If so, please describe how?
2. In the past, what have been the reoccurring problems and issues considered by the deployment schedule? Please describe.
4. Who is responsible for collecting internal/external group responses regarding deployment issues? Is this communicated to all SFA stakeholders?
3. What groups are responsible for approving changes to the schedule?
Base Practice: Deployment Contingency Planning
1. At what point during the deployment schedule are back-out and contingency plans developed?
2. What resources are utilized in developing any back-out or contingency plans?

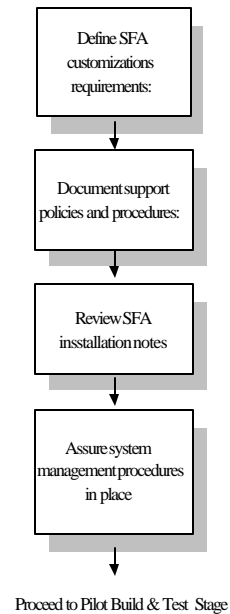
Generic Questions for Deployment Planning	
1.	Are there any procedure/policies in place to monitor deployment planning?
2.	Is training provided that reviews the deployment process/procedure? If yes, describe the training. Is training provided for all users affected by the deployment? If yes, describe the training.
3.	Do you think the resources allocated to managing deployment planning are adequate? Please explain.
4.	Are the deployment activities and processes monitored for continuous improvement? If yes, how? Have any changes been enacted and validated after they have been identified as a continuous improvement area?
5.	Has data been collected on deployment planning progress? If yes, is this automated? Are metrics gathered noting more statistical information? If yes, please explain what metrics are collected and what tools are used. (e.g. software, programs, etc.)
6.	Are strategic goals in place for deployment planning? If yes, what are they, and are they measured against metrics? Are the metrics analyzed against business goals and reported on? If yes, how long and by whom? If no, explain.

6 Appendix C: Pilot Test Process Flows

Pilot Testing Preparations

Performing a pilot test requires a number of steps to make sure you have viable test scenario. There are a series of activities that are addressed in preparing for a pilot test. Below is a depiction of the process that should be followed.

Pilot Testing Preparation Process Flow

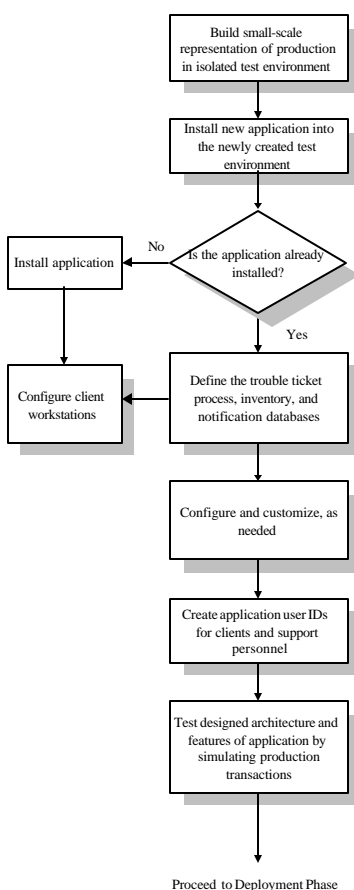


Capability Build & Test

At this point in the deployment process, the architecture has been defined and tested in a controlled environment. Before deployment can progress to the pilot testing phase, training of appropriate support personnel who will be using the application must occur.

During the capability build & test phase individuals are trained on the new architecture, its components, and reinforces these concepts through the simulation of daily activities on the platform in the lab environment. If further customization or architectural development is found to be necessary during this phase, corrections to the procedures are noted.

Pilot Build & Test

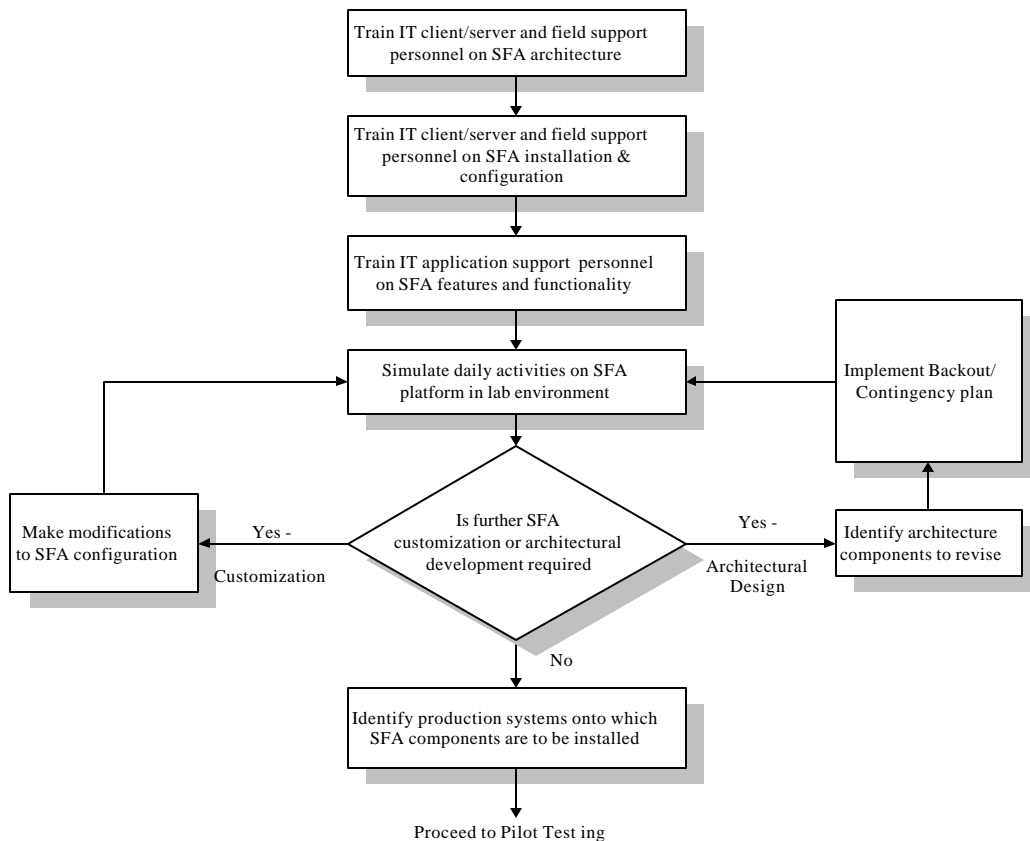


Primary activities performed in this stage are the installation and configuration of the application within the described test environment. This will include the creation of user IDs, customization of trouble ticket forms, and configuration of appropriate databases.

With the testing environment installed and all of the components configured according to the application architecture, functionality testing will be performed to simulate production transactions and activities. Such testing also provides the first verification of the architecture's environment.

Once a strong familiarity with the product and verification of the architecture are achieved through testing, the deployment phase activities begins.

Below is an illustration of the training and configuration activities



The final step in the pilot testing flow is to perform the actual pilot testing. This is illustrated in the following diagram.

